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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,363	06/01/2000	Frederick J. Lalonde	1193ROUS02U	5071
42534	7590	01/10/2006	EXAMINER	
BORDEN LADNER GERVAIS LLP 1100-100 QUEEN ST OTTAWA, ON K1P 1J9 CANADA			PAYNE, DAVID C	
			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/584,363	LALONDE ET AL.	
	Examiner	Art Unit	
	David C. Payne	2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-7,9-22,27 and 29-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-7,9-22,27 and 29-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12 October 2005 have been fully considered but they are not persuasive.
2. Gloeckner has been established as having a controlled for controlling its mirrors. It obvious that the two patents are from the same field of invention and directed too similar problems. It is also obvious to one of ordinary skill in the art that a control could be adapted to the Laor invention if it has been shown for mirrors in general.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 33 recites the limitation "as claimed in 1". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
6. Claims 3-7, 9-22, 27 and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laor et al. US 6,466,711 B1 (Laor) in view of Gloeckner et al. US 6,445,841 (Gloeckner).

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re claim 3, 14, and 22 Laor disclosed,

A photonic switch (Figures 1 or 4) for a network comprising:

a plurality of input ports (12 of Figure 1) and a plurality of output ports (14 of Figure 1);

a switch block (20 or 30 of Figure 1) for directing said light along an optical path from an assigned ingress area (22) to an associated egress area (32) selected from a plurality of egress areas (30);

wherein said switching block comprises a switch fabric for cross-connecting said light from an input signal (51) to an output signal (52), and

wherein said switch fabric comprises row-column input matrix (e.g., col./line: 4/45-55, 6/15-30) of switching elements and an row-column output matrix wherein

adaptable paths transit said switch fabric such that an input optical switching element of said input matrix redirects said wavelength away from the plane (20) of said input matrix to an output optical switching element of said output matrix (30).

Laor does not disclose

an optical demultiplexer for separating a wavelength from input signal received on an input port.

a control unit for selecting an associated egress area and configuring said switch fabric to direct said wavelength along an adaptable path between said assigned ingress area and said associated egress area,

Gloeckner

Gloeckner disclosed a control unit (Figure 18 #1774) for control of switching units in an optical switch and a demultiplexer (Figure 18 #1751) for separating wavelengths. It would have been obvious to one of ordinary skill in the art at the time of invention to apply the Gloeckner control unit and demultiplexer to the Laor apparatus for the benefit of being able to redirect multi-wavelength signals from input ports to output ports.

Furthermore, while Laor teaches the use of a focusing means it is obvious to one of ordinary skill in the art at the time of invention to construct the device without such a lens. One is motivated as such since the MEM switches will still receive light from the fibers and will function to switch light through the switch. The lenses only help to more efficiently direct light onto the switch path.

Regarding claim 4, the modified invention of Laor and Gloeckner disclosed a system wherein said switching elements have a minimum of four degrees of freedom of orientation (see Gloeckner, Figure 15 #1550).

Regarding claim 5, the modified invention of Laor and Gloeckner disclosed wherein said switching elements are 3-D MEMs mirrors (see Laor, col./line: 8/5-10).

Regarding claims 6-7, and 9-11, Laor and Gloeckner disclosed the predetermined positions of the demultiplexer input and outputs as claimed (Gloeckner, Figure 17).

Regarding claims 12 and 13, Laor and Gloeckner disclosed where the number of input ports I is equal to the number of output ports I' (Laor Figure 1).

Regarding claims 15-19, 27, and 29 Laor and Gloeckner disclosed add and drop ports which is considered equivalent to input and output ports (Laor Figure 1).

Regarding claims 20 and 21, Laor does not disclose a connectivity map. However, it would have been obvious to one of ordinary skill in the art at the time of invention that the configuration control module disclosed in Gloeckner (col./line: 14/55-65) would need to maintain a configuration map in order to 'map' wavelengths from input ports to output ports.

Regarding claims 30 and 31 Laor and Gloeckner disclosed where input and output matrices are in different planes substantially parallel (Laor Figure 1).

Regarding claim, 32 Laor and Gloeckner disclosed where input and output matrices and in the same plane (Laor, 32 of Figure 8) with a directing means (Laor, 324 of Figure 8) in the path of light between input and output matrices.

7. Claims 33 - 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laor et al. US 6,466,711 B1 (Laor) in view of Gloeckner et al. US 6,445,841 (Gloeckner) as applied to claims 20 and 22, and in further view of Boord et al. US 6,647,209 B1.

Re claims 33 (insofar as it is understood based on the 112 rejection), 34, and 35,

The modified invention discloses the aforementioned invention but not where the demultiplexer includes a diffraction grating. Boord disclosed a diffraction grating as part of a demultiplexer (col./line: 14/12-35). It would have been obvious to one of ordinary skill in the art at the time of invention to use the demultiplexer with diffraction gratings in the modified invention. One is motivated as such because the spatial separation or spatial combination of laser beams of different wavelength is achieved with the use of bulk diffraction gratings.

Also, bulk optical components are used to collimate and shape (or steer) the free space propagating laser beams to enable efficient coupling of light into single mode optical fibers, or integrated optic waveguides, and to reduce optical cross talk. Polarizing beamsplitters orient the polarization direction of the light to enable maximum diffraction efficiency by the gratings and to reduce the polarization dependent loss (col./line: 2/57-67).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 573-273-8300.

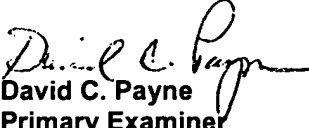
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Dcp


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AU 2638